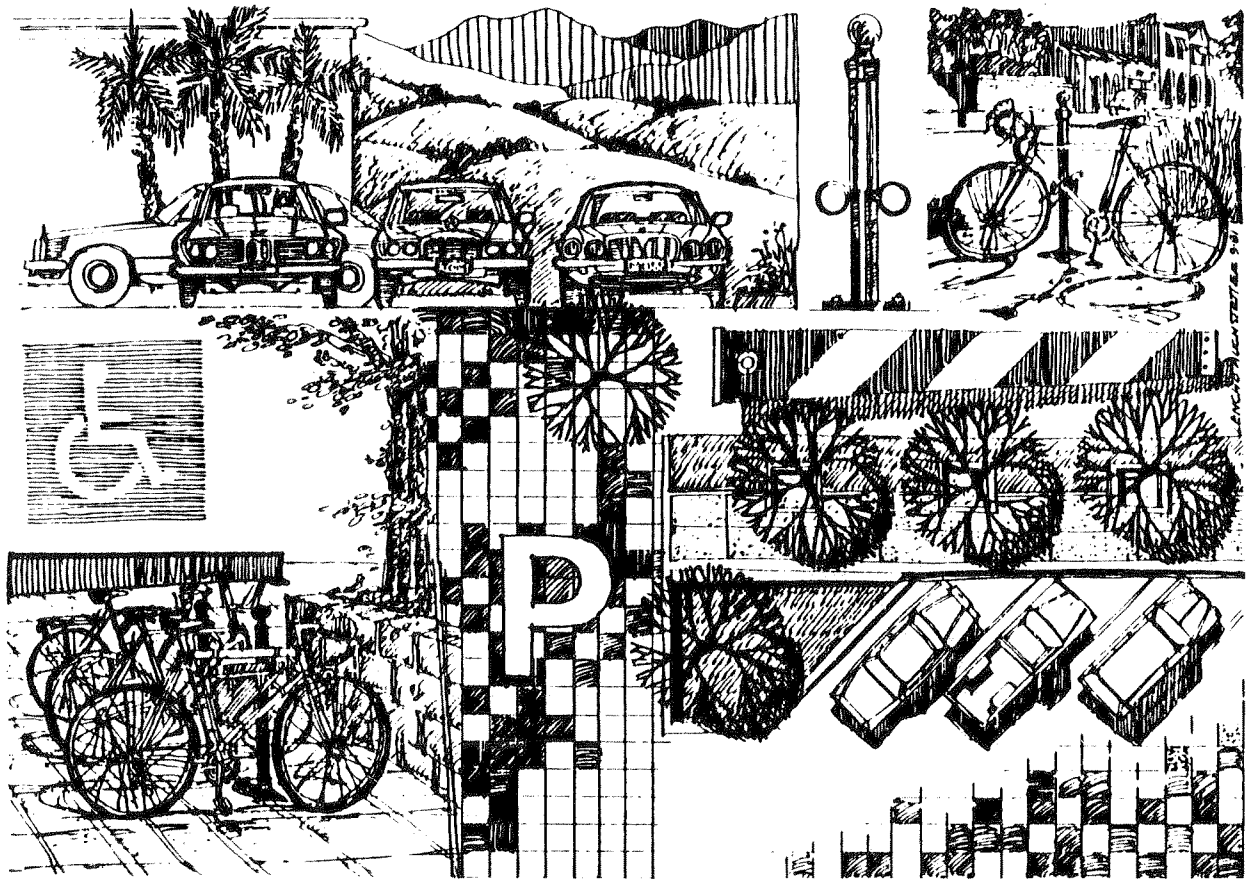
CITY of SANTA BARBARA



Standards for Parking Design

CITY OF SANTA BARBARA

STANDARDS FOR PARKING DESIGN

Corrections and Additions to the May 15, 1982 Edition

CORRECTIONS:

Page 24 Title 24 of the California Building Code has superceded the City's requirement.

Page 26 Chapter 28.90 of the Municipal Code allows a minimum driveway width of 10 feet, however, a 12 foot minimum driveway is preferable for low-traffic use or one-way use. In most other cases, a 24 foot driveway is recommended.

ADDITIONS:

Page 3 Paragraph 2: "Dead-end" parking lots require a turn-around.

Page 19 Obstructions within one foot of either side of a 16' minimum width carport must be six inches or less in height. (That is, the carport-must be widened 1 (or 2) feet if there is a wall on one (or both) side(s) of it.

- A stop sign, and painted stop bar and legend shall be provided at each driveway exit.
- Bicycle parking shall be placed in a convenient location. High security type racks shall be provided for employee use.
- Commercial truck parking spaces are required for some uses.
- For projects subject to discretionary review, alternative transportation measures may be required. (For example, showers and lockers, bus passes, etc.) These measures are suggested for all projects.

For further information regarding the Standards for Parking Design, please contact:
Transportation Division • 630 Garden Street • Santa Barbara, CA 93101 • (805) 564-5385

Attachment A: Automobile Parking Requirements - Chapter 28-90 of the Municipal Code regarding required spaces, driveways, landscaping, bicycle parking, etc.

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STANDARDS FOR PARKING DESIGN

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INTRODUCTION

The purpose of these Standards is to provide for convenient off-street parking that will entice users away from on-street parking. In general, on-street parking results in disruptions to through traffic and a higher traffic accident rate. Studies have shown that when on-street parking is removed a reduction in traffic accidents of up to 32 percent can be expected.

These Parking Design Standards are part of the City of Santa Barbara Municipal Code (Section 28.90.045) and list minimum dimensions and other criteria for the design of all parking facilities in the City. Inasmuch as minimum criteria are presented no exceptions will be allowed. Field inspections will be made of constructed parking facilities to verify compliance with these Standards.

PARKING PLAN REQUIREMENTS

Section 28.90.045 "Parking Design Standards" of the Municipal Code states the following in paragraph 1.d:

> It shall be the duty of the Transportation Engineer to review and approve all parking plans.

To adequately review parking plans all pertinent information shall be shown on a separate parking plan sheet. The parking layout is to be at a scale of either 1" = 8', 1" = 10' or 1" = 20'. The required information shall include, but not be limited to, the following:

1. A vicinity map locating the proposed development.
2. Dimensioned property lines.
3. The street address.
4. Name and telephone number of the designer and the owner.
5. Scale and north arrow.
6. All dimensions necessary to check the layout.
7. Zone in which development is included together with the appropriate unit of measure and the required number of parking stalls, covered and uncovered.
8. Existing or proposed obstructions (e.g. buildings, trees, landscaping, poles, walls, drainage structures, etc.).

9. Slope and gradient of parking and driveway areas (see pages 27 and 28 for details.)

10. Width and existing configuration of street (including striping layout, if any) from which development has access (drawn to scale).

11. Existing curb cuts on-site and within 50 feet on either side.

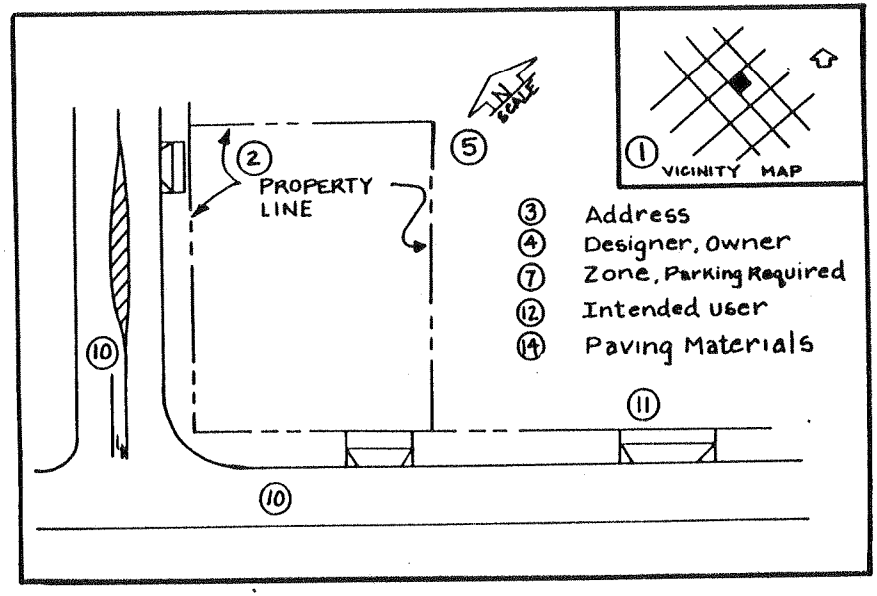
12. Intended user, e.g. employee, customer, general public (see page 6).

13. Loading and unloading areas, size to be appropriate for intended use.

14. Paving materials to be used.

15. Detail of bicycle parking device and area.

The Transportation Engineer will not take action or make any comments on any parking plan submitted unless the above data is included. Other data may be required by the Transportation Engineer after preliminary review.



SAMPLE REQUIRED PARKING PLAN SHEET

CRITERIA FOR DESIGN STANDARDS

1. The standards presented are the minimum requirements and therefore dimensions less than those required will not be accepted on parking plans. Where the provision of parking becomes a problem, the Program Alternative Transportation Modes (Section 28.90.001, Paragraph 3, of the Municipal Code) is the indicated method of reducing the number of parking spaces required.

2. Backing out onto a public street or sidewalk from a parking space shall be permitted only for a one-family or two-family dwelling, where not more than four parking spaces are provided and where the length of the driveway is less than 75 feet.

3. All turn-around movements shall be accomplished in one maneuver. One maneuver is considered to be one back-up and one forward movement. Head-in parking only is assumed.

4. Parking spaces will not be allowed in the driveway.

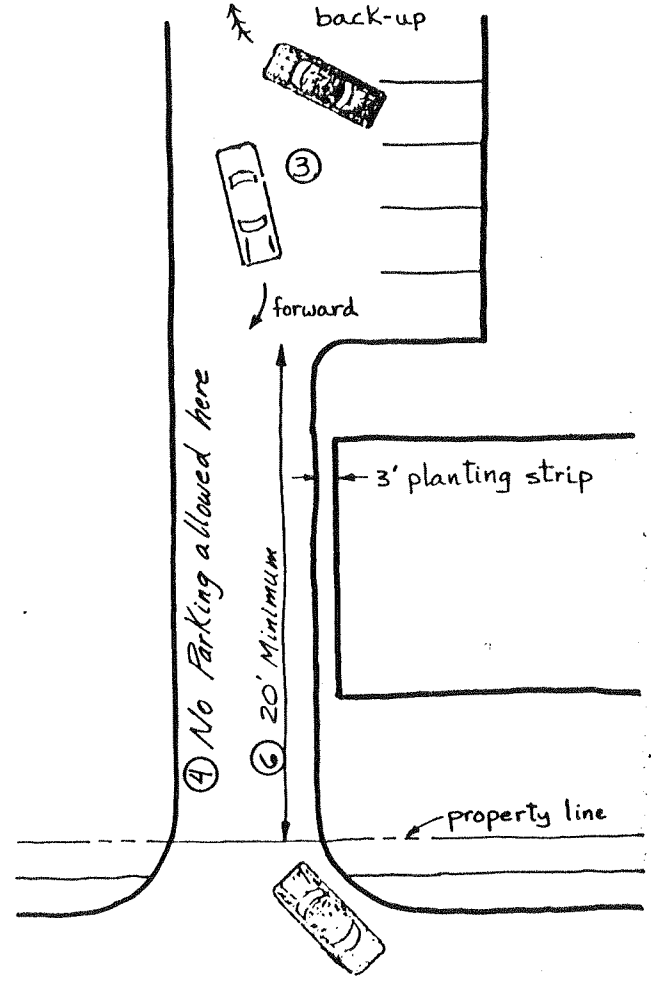
5. Credit for overhang can only be considered where the vehicle is next to a curb six inches or less in height and the landscaping is approximately flush with the curb (see page 25).

6. For parking lots with 20 or more stalls a 20 foot deep driveway "throat" is to be provided, measured from the front property line. This is to ensure that entering vehicles will not have to suddenly stop (and obstruct traffic on the public right-of-way) if vehicles maneuvering on site are encountered. The 20 foot depth can also be required in smaller lots where the traffic conditions so warrant (e.g. high traffic volume or high speed streets).

7. Compact car parking will only be allowed in surface parking lots containing more than 10 stalls. A maximum of 30 percent of the parking spaces will be allowed for compact car parking. Fractions will not be considered. All such stalls must be appropriately signed and wheel stops stenciled. The legend shall be "Compact Cars Only".

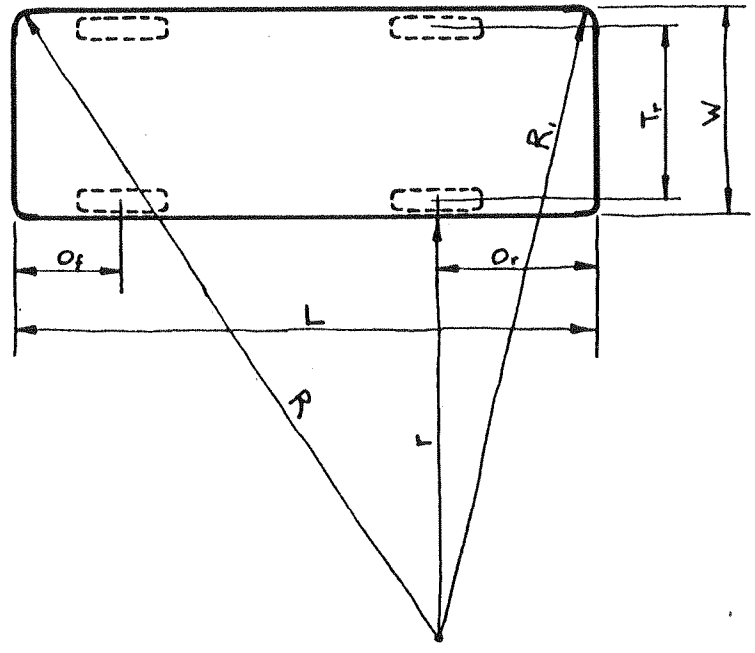
8. Parking structures will be handled on a case by case basis with the garage and carport standards as a general guide. Column and wall locations will be checked using a turning vehicle template.

As revisions are made to these standards a copy of same will be kept at the Transportation Section of the Public Works Department and the City Clerk's office. It is the responsibility of those submitting parking plans for review to ensure that the current standards are used in the preparation of said plans.



city of santa barbara
transportation section

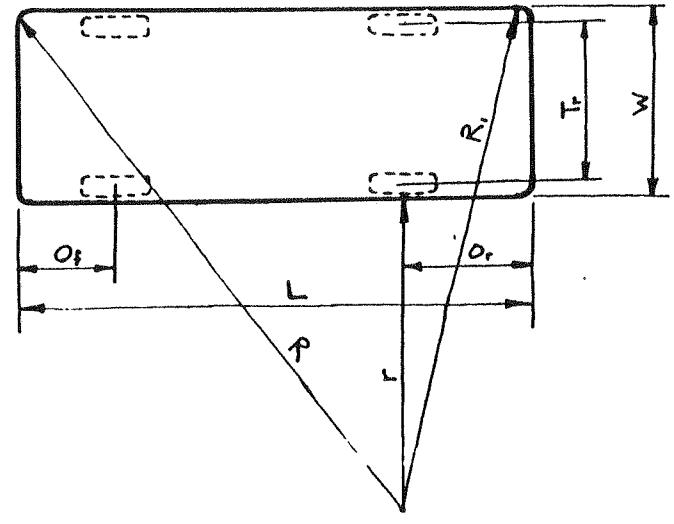
"STANDARD" DESIGN VEHICLE *



L	= 16.50'
W	= 5.83'
R	= 21.25'
T_r	= 4.88'
O_f	= 3.00
O_r	= 4.50
r	= 11.70'
R_1	= 18.11'
O_s, $\frac{W-T_r}{2}$	= 0.48'
i, S-W(8.5' stall)	= 2.67'
i, S-W(9.0' stall)	= 3.17'

* Based on analysis of current vehicle data by William T. Mahan, AIA

"COMPACT" DESIGN VEHICLE *



L	= 14.50'
W	= 5.22'
R	= 17.50'
T_r	= 4.50'
O_f	= 2.75'
O_r	= 3.58'
r	= 8.46'
R_1	= 14.14'
O_s, $\frac{W-T_r}{2}$	= 0.36'
i, s-W(8.0' stall)	= 2.78'

* Based on analysis of current vehicle data by William T. Mahan, AIA

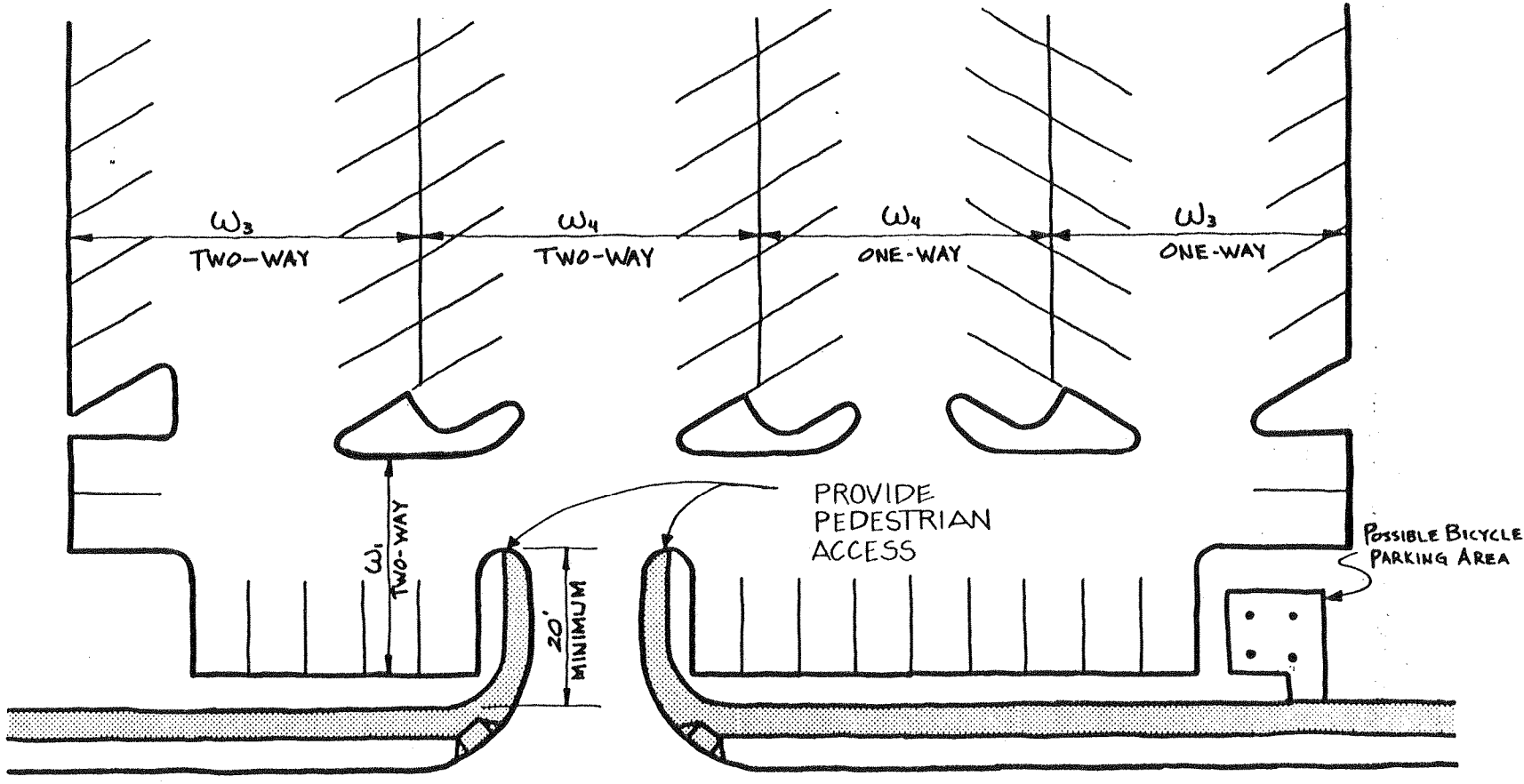
APPLICATION OF PARKING DESIGN STANDARDS

The charts on pages 9-17 are intended for use on surface lots only, i.e. uncovered parking. *ENO foundation formulas were used to determine the required aisle widths for varying angles of parking. In recognition of the current and probable future down-sizing of automobiles two new design vehicles were determined for use in the formulas. The dimensions of a smaller "standard" and "compact" design vehicle were arrived at by surveying vehicles at local parking lots. For each column listing bay widths only certain types of users are permitted as follows:

Stall Width	Parking Duration	Type of Use
8.0 feet	Short & Long Term	In any lot containing more than 10 parking spaces, only a maximum of 30% of the total number of spaces can be compact. The stalls shall be appropriately signed and the wheel stops stenciled. Assigned multi-family residential parking.
8.5 feet	Short Term	Mixed-use commercial, institutional (e.g. government office, schools, hospitals, major shopping complex, etc.)
8.5 feet	Long Term	Employee parking.
9.0 feet	Short Term	Supermarkets, small shopping centers (less than 50,000 sq. ft.) Residential Guest Parking.
9.0 feet	Long Term	Residential parking.

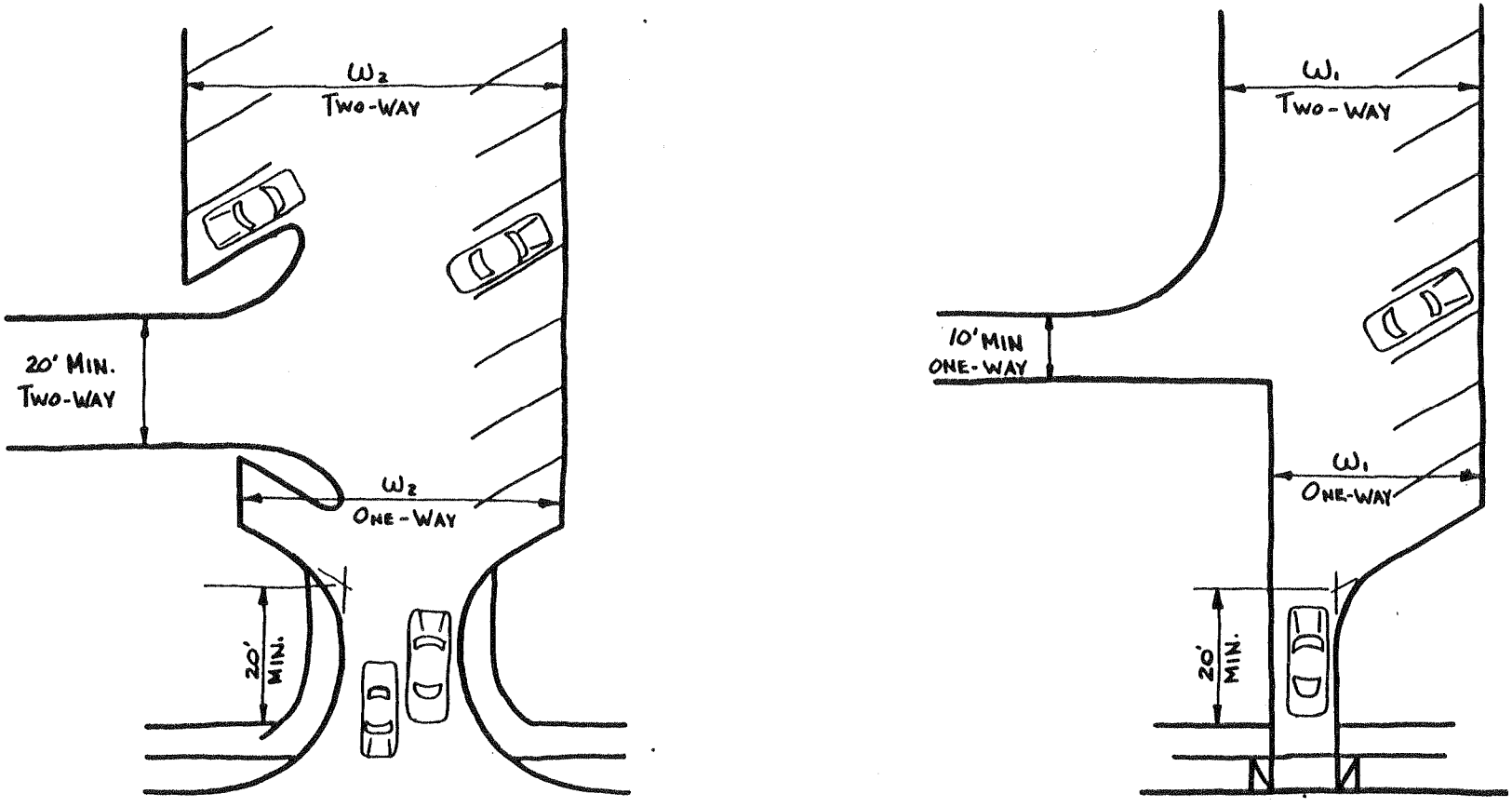
NOTE: For narrow lots, stall widths of up to 11.0 feet are allowed for 90° parking only. See page 17 for details.

* The ENO Foundation (Westport Connecticut) is a non-profit organization dedicated to the improvement of "transportation in all its aspects through the conduct and encouragement of appropriate research and educational activities..."



TYPICAL PARKING DETAILS

city of santa barbara
transportation section



TYPICAL PARKING DETAILS

city of santa barbara
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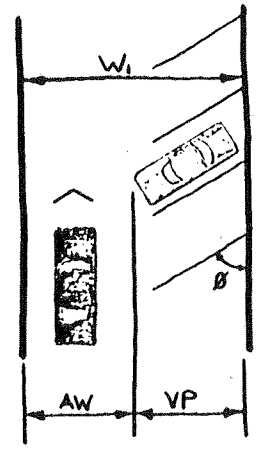
Angle Ø	ONE-WAY FLOW W_1 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Widths		9.0' Stall Widths	
		Short Term	Long Term	Short Term	Long Term
30°	24.0	26.5	25.0	26.5	25.0
35°	24.5	27.0	26.0	27.0	26.0
40°	25.5	28.0	26.5	28.0	26.5
45°	26.0	29.0	27.5	29.0	27.5
50°	26.5	29.5	28.0	29.5	28.0
55°	27.0	30.0	29.0	30.0	28.5
60°	28.0	33.0	31.5	32.0	30.0
65°	30.0	35.5	34.0	34.5	33.0
70°	32.0	38.0	36.5	37.0	35.0
75°	34.0	40.0	38.5	39.0	37.5
80°	36.0	42.5	41.0	41.5	39.5
85°	37.5	44.0	42.5	43.0	41.5
90°	39.0	46.0	44.5	45.0	43.5



The entire parking and maneuvering area is to be free of any obstructions. No loading or unloading is to be done in said area.

W_1 = VP + AW

VP = C + L sinØ + W cosØ

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

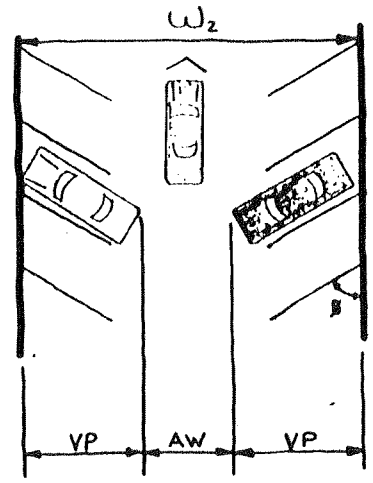
W = width of design vehicle

Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle Ø	ONE-WAY FLOW W_2 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Widths		9.0' Stall Widths	
		Short Term	Long Term	Short Term	Long Term
30°	36.0	40.0	38.5	40.0	38.5
35°	37.5	42.0	40.5	42.0	40.5
40°	39.0	43.5	42.0	43.5	42.0
45°	40.5	45.0	43.5	45.0	43.5
50°	41.5	46.5	45.0	46.5	45.0
55°	42.5	47.5	46.5	47.5	46.0
60°	43.5	50.5	49.5	49.5	48.0
65°	46.0	53.5	52.0	52.5	51.0
70°	48.0	56.0	54.5	55.0	53.0
75°	50.0	58.0	56.5	57.0	55.5
80°	51.5	60.0	58.5	59.0	57.5
85°	53.0	61.5	60.0	60.5	59.0
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions
No loading or unloading is to be done in said area.

W_2 = 2VP + AW

VP = C + L sinØ + W cosØ

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

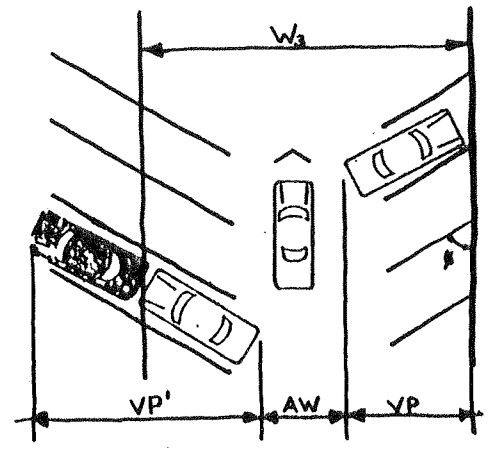
W = width of design vehicle

Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle Ø	ONE-WAY FLOW W_3 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	33.5	37.5	36.0	37.5	36.0
35°	35.5	39.5	38.0	39.5	38.0
40°	37.0	41.5	40.0	41.5	40.0
45°	38.5	43.0	41.5	43.0	41.5
50°	39.5	44.5	43.0	44.5	43.0
55°	40.5	46.0	44.5	45.5	44.0
60°	42.0	49.0	47.5	48.0	46.5
65°	44.5	52.0	51.0	51.0	49.5
70°	47.0	55.0	53.5	54.0	52.0
75°	49.0	57.5	56.0	56.5	54.5
80°	51.0	59.5	58.0	58.5	57.0
85°	52.5	61.5	60.0	60.5	58.5
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions. No loading or unloading is to be done in said area.

$W_3 = VP + AW + \frac{VP'}{2}$

$VP = C + L \sin Ø + W \cos Ø$

$VP' = (1' + 2L)\sin Ø + W \cos Ø$

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

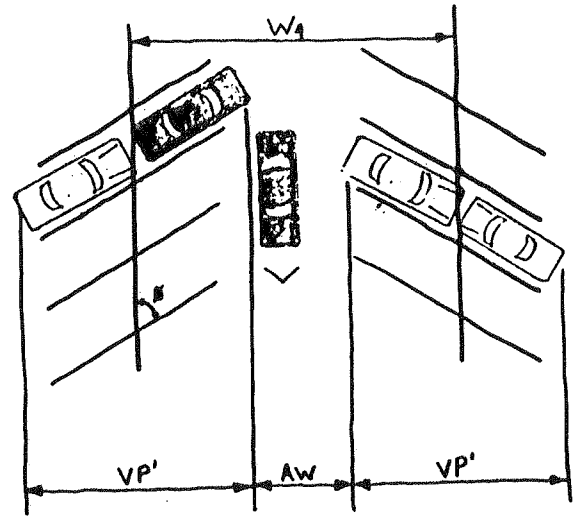
W = width of design vehicle

Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle Ø	ONE-WAY FLOW W_4 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	31.0	34.5	33.0	34.5	33.0
35°	33.0	37.0	35.5	37.0	35.5
40°	35.0	39.0	37.5	39.0	37.5
45°	36.5	40.5	39.0	41.0	39.0
50°	38.0	42.5	41.0	42.5	41.0
55°	39.0	44.0	42.5	43.5	42.0
60°	41.0	47.5	46.0	46.5	45.0
65°	43.5	51.0	49.5	49.5	48.0
70°	46.0	54.0	52.5	52.5	51.0
75°	48.5	56.5	55.0	55.5	54.0
80°	50.5	59.0	57.5	58.0	56.5
85°	52.5	61.0	59.5	60.0	58.5
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions. No loading or unloading is to be done in said area.

W_4 = VP' + AW

VP' = (C + 2L) sinØ + W cosØ

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

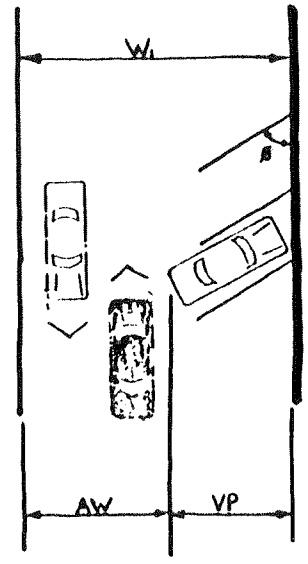
W = width of design vehicle

Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle Ø	TWO-WAY FLOW W_1 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	32.0	35.5	33.0	35.5	33.0
35°	33.0	36.5	34.0	36.5	34.0
40°	33.5	37.5	35.0	37.5	35.0
45°	34.5	38.0	35.5	38.0	35.5
50°	35.0	38.5	36.5	38.5	36.5
55°	35.5	39.0	37.0	39.0	37.0
60°	35.5	39.5	37.0	39.5	37.0
65°	35.5	39.5	37.5	39.5	37.5
70°	36.0	39.5	37.5	39.5	37.5
75°	36.0	40.0	38.5	39.5	37.5
80°	36.0	42.5	41.0	41.5	39.5
85°	37.5	44.0	42.5	43.0	41.5
90°	39.0	46.0	44.5	45.0	43.5



The entire parking and maneuvering area is to be free of any obstructions. No loading and unloading is to be done in said area.

W_1 = VP + AW

VP = C + L sinØ + W cosØ

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

W = width of design vehicle

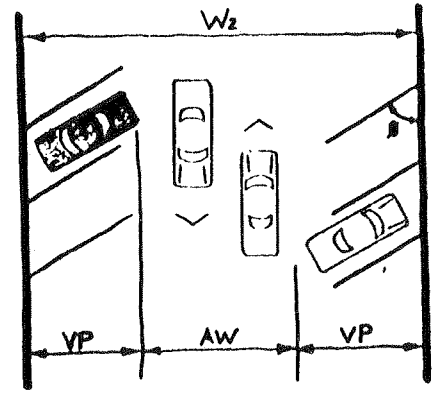
Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

STANDARDS FOR PARKING DESIGN

Angle Ø	TWO-WAY FLOW W_2 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	44.5	49.5	47.0	49.5	47.0
35°	46.0	51.0	49.0	51.0	49.0
40°	47.5	53.0	50.5	53.0	50.5
45°	48.5	54.5	52.0	54.5	52.0
50°	50.0	55.5	53.0	55.5	53.0
55°	50.5	56.5	54.0	56.5	54.0
60°	51.5	57.5	55.0	57.5	55.0
65°	51.5	57.5	55.5	57.5	55.5
70°	51.5	57.5	55.5	57.5	55.5
75°	51.5	58.0	56.5	57.5	55.5
80°	51.5	60.0	58.5	59.0	57.5
85°	53.0	61.5	60.0	60.5	59.0
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions. No loading and unloading is to be done in said area.

W_2 = 2VP + AW

VP = C + L sinØ + W cosØ

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance (0.5' long term parking, 1.0' short term parking)

L = length of design vehicle

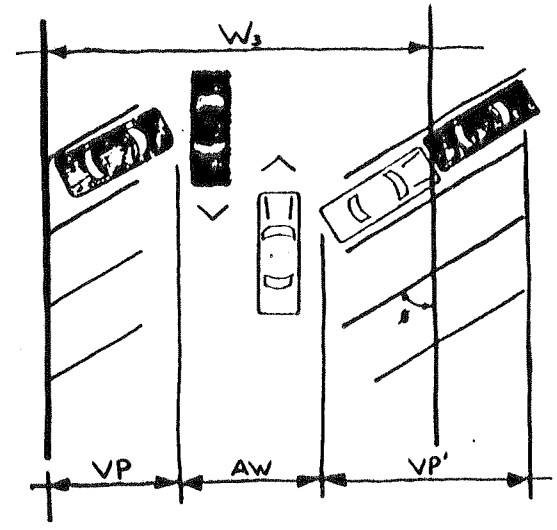
W = width of design vehicle

Ø = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle θ	TWO-WAY FLOW W_3 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	42.0	46.5	44.5	46.5	44.5
35°	44.0	48.5	46.0	48.5	46.5
40°	45.5	50.5	48.0	50.5	48.0
45°	47.0	52.0	50.0	52.0	50.0
50°	48.0	53.5	51.0	53.5	51.0
55°	49.0	54.5	52.5	54.5	52.5
60°	50.0	55.5	53.5	55.5	53.5
65°	50.5	56.5	54.0	56.5	54.0
70°	51.0	56.5	54.5	56.5	54.5
75°	51.0	57.5	56.0	56.5	54.5
80°	51.0	59.5	58.0	58.5	57.0
85°	52.5	61.5	60.0	60.5	58.5
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions. No loading and unloading is to be done in said area

$W_3 = VP + AW + \frac{VP'}{2}$

$VP = C + L \sin\theta + W \cos\theta$

$VP' = (1' + 2L)\sin\theta + W \cos\theta$

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

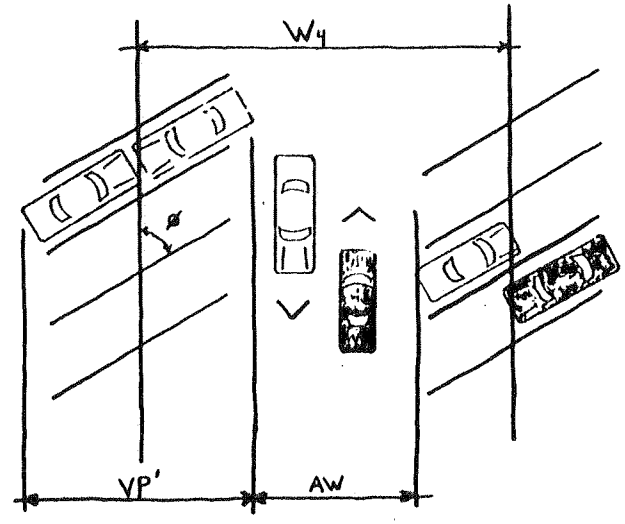
W = width of design vehicle

θ = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

Angle θ	TWO-WAY FLOW W_4 MINIMUM BAY WIDTHS (feet)				
	8.0' Stall Width Short & Long Term	8.5' Stall Width		9.0' Stall Width	
		Short Term	Long Term	Short Term	Long Term
30°	39.5	44.0	41.5	44.0	41.5
35°	41.5	46.0	43.5	46.0	43.5
40°	43.0	48.0	45.5	48.0	45.5
45°	45.0	50.0	47.5	50.0	47.5
50°	46.0	51.5	49.0	51.5	49.0
55°	47.5	53.0	50.5	53.0	50.5
60°	48.5	54.0	52.0	54.0	52.0
65°	49.5	55.0	52.5	55.0	52.5
70°	50.0	55.5	53.5	55.5	53.5
75°	50.0	56.5	55.0	55.5	53.5
80°	50.5	59.0	57.5	58.0	56.5
85°	52.5	61.0	59.5	60.0	58.5
90°	54.0	63.0	61.5	62.0	60.5



The entire parking and maneuvering area is to be free of any obstructions. No loading and unloading is to be done in said area.

$W_4 = VP' + AW$

$VP' = (C + 2L)\sin\emptyset + W\cos\emptyset$

AW = aisle width computed using ENO foundation formulas & empirically adjusted.

Where C = clearance 0.5' long term parking, 1.0' short term parking

L = length of design vehicle

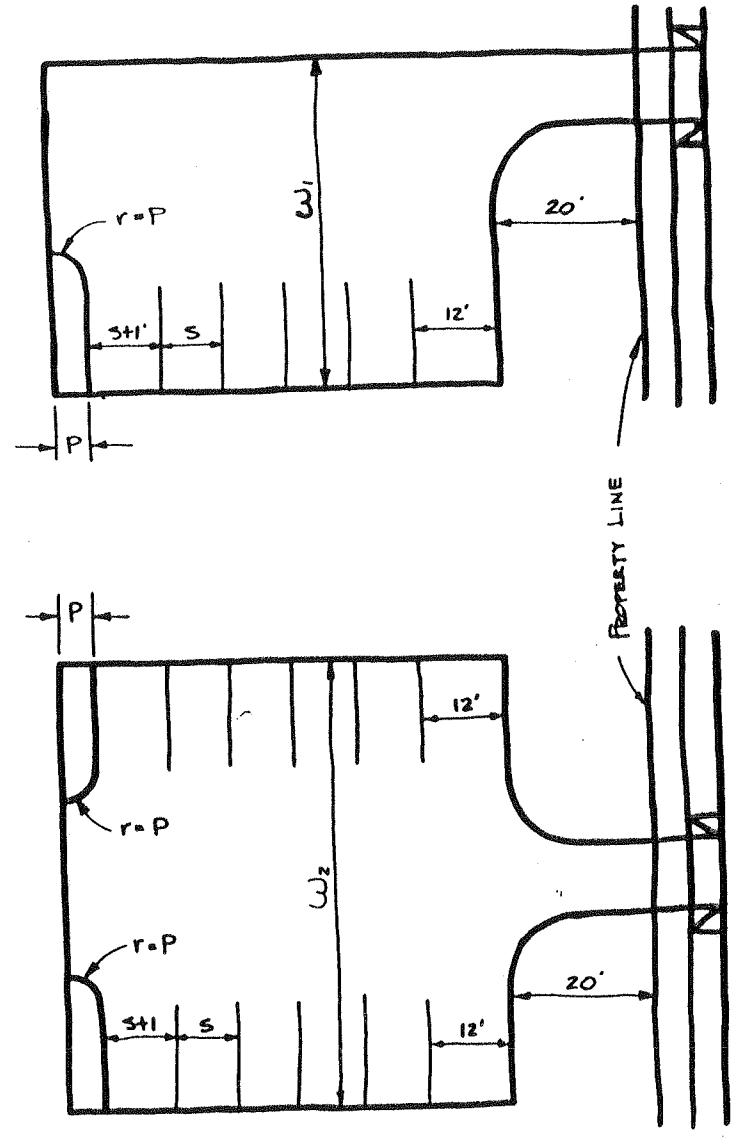
W = width of design vehicle

$\emptyset$ = angle of parking stall

S = stall width

End stalls next to a vertical obstruction 6" or higher shall be 1' wider than otherwise required.

MINIMUM BAY WIDTHS FOR 90° PARKING						
Stall Width	W_1			W_2		
	Short Term	Long Term	P	Short Term	Long Term	P
8.5	46.0	44.5	-	63.0	61.5	-
9.0	45.0	43.5	-	62.0	60.5	-
9.5	44.0	42.0	3.5	61.0	59.0	3.5
10.0	42.5	40.5	4.0	59.5	57.5	4.0
10.5	41.0	38.0	4.5	58.0	55.5	4.5
11.0	38.0	36.0	5.0	55.0	53.5	5.0

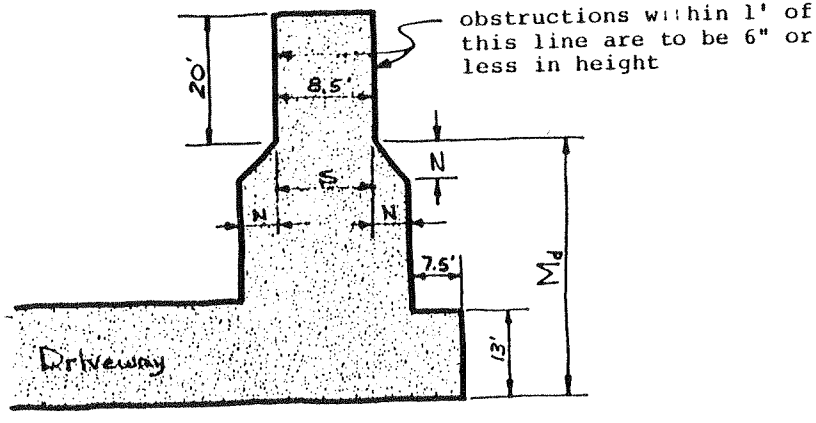


COVERED PARKING

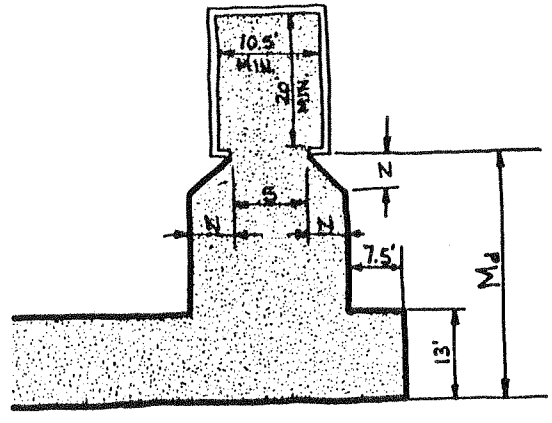
Case I:

Single stall garages and carports with vertical restrictions on both sides of the stall. If the stall width is increased, a reduction in the backing maneuver requirements can be permitted as indicated in the following table:

REQUIRED MANEUVERING DEPTHS, M_d						
S	8.5	9.0	9.5	10.0	10.5	11.0
M_d	28.0	27.0	26.5	26.0	25.5	25.0
N	4.0	3.5	3.5	3.0	3.0	2.5



CARPORT



GARAGE

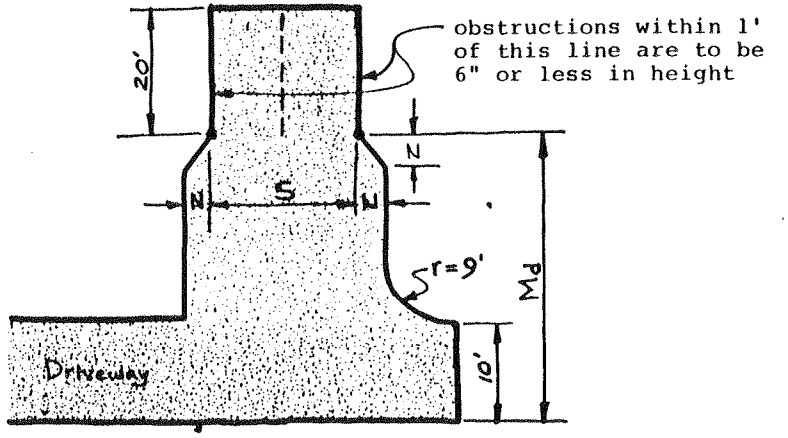
Paved area to be free of obstructions

The interior height of carports and garages is to be not less than 6'6". Where storage cabinets are provided a height of 4 feet is allowed within 4 feet of the rear of the structure.

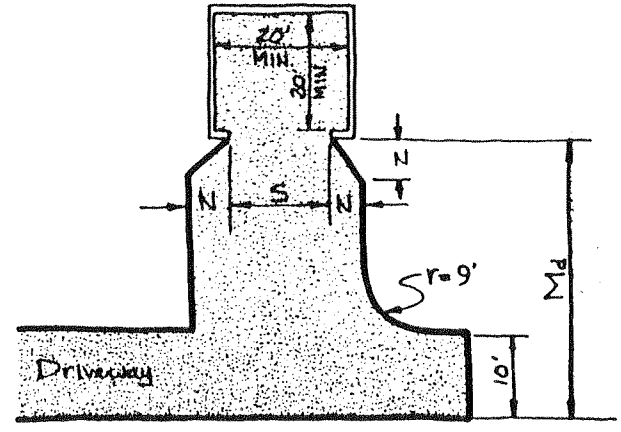
Case II:

Double parking stalls in garages and carports with vertical restrictions on both sides of the stall. If the width between the vertical restrictions is increased, a reduction in the backing maneuver requirements can be permitted as indicated in the following table:

REQUIRED MANEUVERING DEPTHS, M_d						
S	16.0	17.0	18.0	19.0	20.0	22.0
M_d	27.0	26.0	25.0	24.0	23.0	20.0
N	4.0	3.5	3.5	3.0	3.0	2.5



CARPORT



GARAGE

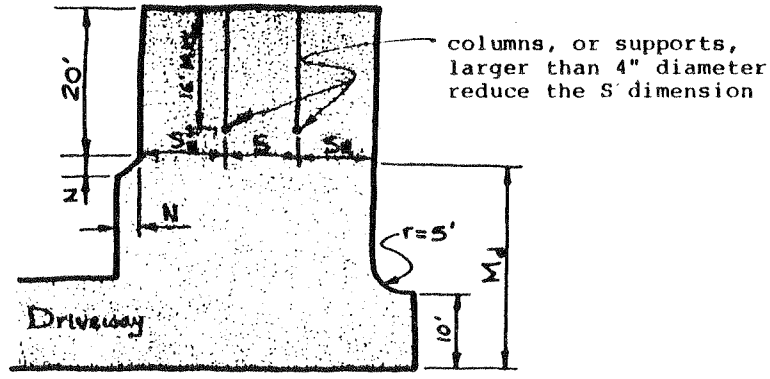
Paved area to be free of obstructions

The interior height of carports and garages is to be not less than 6'6". Where storage cabinets are provided a height of 4 feet is allowed within 4 feet of the rear of the structure.

Case III:

Multiple parking layouts of three or more parking stalls with vertical obstructions on both sides of the stalls. The following table provides the minimum requirements for the design of parking stalls in this classification.

REQUIRED MANEUVERING DEPTHS, M_d						
S	8.5	9.0	9.5	10.0	10.5	11.0
M_d	27.0	26.0	25.5	25.0	24.5	24.0
N	4.0	3.5	3.5	3.0	3.0	2.5
S_e	10.0	10.5	11.0	11.5	12.5	13.0



columns, or supports, larger than 4" diameter reduce the S dimension

CARPORT

Paved area to be free of obstructions

The interior height of carports and garages is to be not less than 6'6". Where storage cabinets are provided a height of 4 feet is allowed within 4 feet of the rear of the structure.

BICYCLE PARKING

PLAN REQUIREMENTS: Plans submitted to the Transportation Engineer for review and approval shall include detail of bicycle parking device.

LOCATION CRITERIA: Bike racks shall be located such that they are highly visible from the street or building entrance from whence bicyclists approach. No bike rack shall be installed in an isolated location but rather near the main entrance(s) of the building for which they are intended or in a comparably convenient location, where there is constant pedestrian traffic yet allowing 4 feet minimum width for pedestrian traffic. Bike racks are intended for use by the general public as well as employees.

The site must be separated from motor vehicle parking by at least a curb barrier which would prevent vehicles from damaging bicycles. Parked bicycle in bike rack must not be within 3 feet of a curb where the door of a parked car would open or where a conflict with vehicle overhang would occur.

Employee parking may be located in an accessible indoor location.

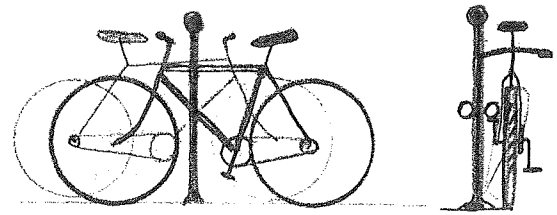
PARKING DEVICE DESIGN: Bicycle racks must be capable of locking both wheels and frame of bicycle and of supporting bicycle in an upright position.

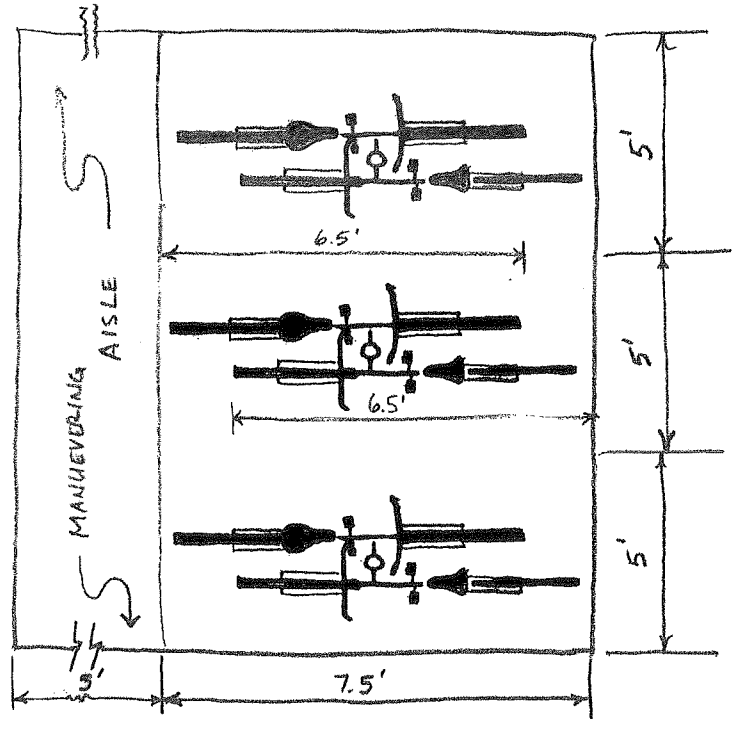
Racks must be securely anchored to supporting surface.

Three different bike rack designs have been approved and are currently in use in El Pueblo Viejo Landmark District: U-Lok, front wheel rack and hitching post.

DIMENSIONS: Installation of bike racks shall conform with the requirements set forth by the bike rack manufacturer with a rectangular space no less than 2½ feet wide by 6 feet long per bicycle unless a locker or a permanent device to stand the bicycle on end is provided. A backout or maneuvering aisle of at least 5 feet shall be provided between the parked bicycle and the nearest structure. Racks must be at least 36 inches high unless bicycle parking area is surrounded by railing, hedge or chain 36" high so as to be readily visible to pedestrians.

Bicycle racks shall be installed with adequate space (12" minimum) beside the parked bicycle so that a bicyclist will be able to reach and operate locking mechanism.





TYPICAL HITCHING POST LAYOUT

BICYCLE PARKING
(Continued)

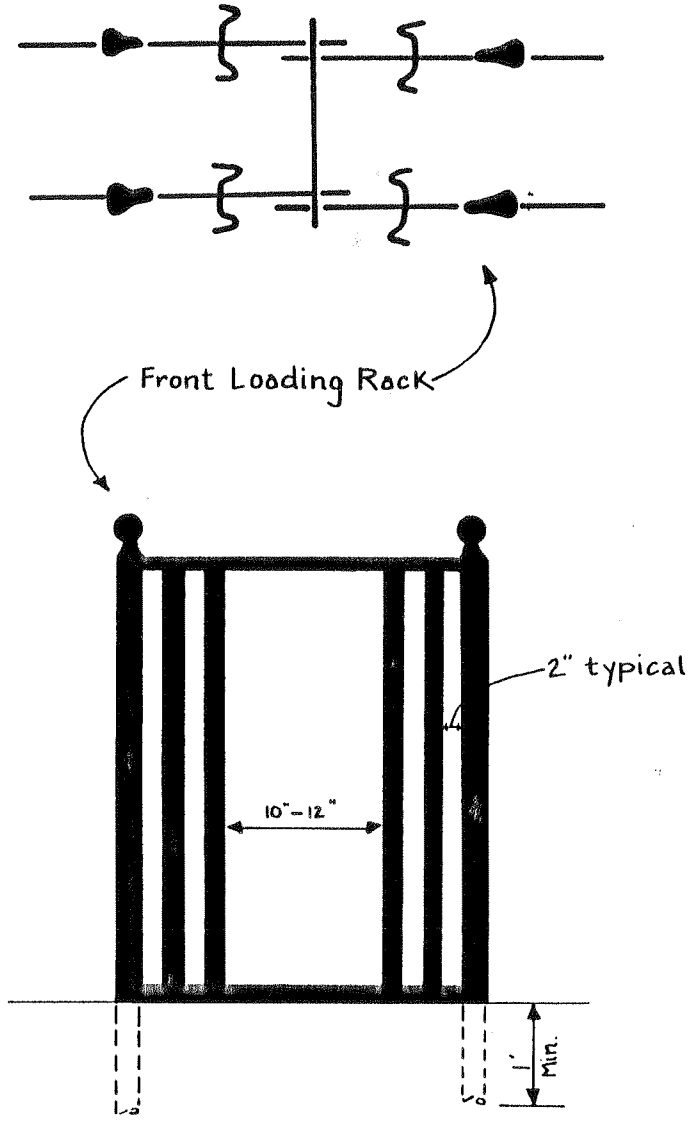
MISCELLANEOUS: When parking for more than 5 bicycles is required, a shelter may also be required to protect the bicycles, preferably integral with the architecture.

A hard-surfaced parking area is required.

A ramp, 2 feet wide, shall connect all new outdoor bicycle parking areas to the nearest access roadway.

Parking facilities are divided into three classes in the order of desirability:

Class I	High-security, long-term bike locker or attended covered parking which offers complete protection from vandalism and weather.
Class II	Medium-security parking which secures both wheels and the frame with a simple user-supplied lock, but without the need for bulky cables or chains.
Class III	Minimum-security, short-term bike rack or fixed object that holds a bike in conjunction with a user-supplied cable, chain and lock.



TANDEM PARKING

Tandem parking will only be allowed where a parking attendant is on duty at all times the facility is in use. (A legal document will be required for all tandem parking approvals to ensure that the attendant is provided.)

Tandem parking will not be allowed in facilities whose parking requirement is less than 20 spaces.

Tandem parking will not be allowed in the SD-2 zone.

Alternative Transportation programs will be required in conjunction with tandem parking approvals.

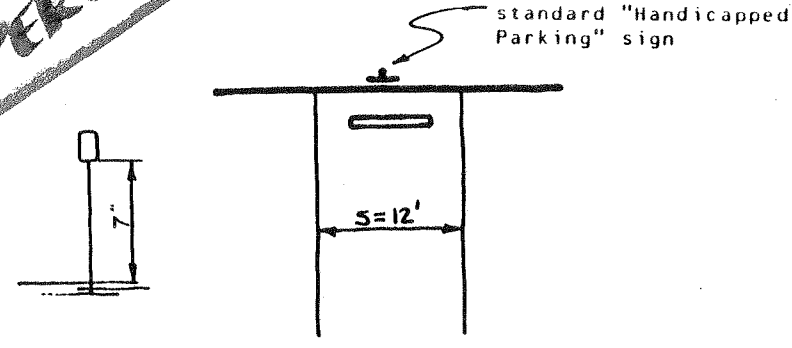
An appropriate number of regular (non-tandem) parking spaces is to be provided, the number and location of said spaces is to be approved by the Transportation Engineer.

HANDICAPPED PARKING

Parking stalls for the exclusive use of vehicles driven by disabled persons shall be provided in all parking lots containing 50 or more stalls at a ratio of one handicapped parking stall for every 100 stalls. Such stalls are to be located as close as possible to the appropriate access points.

The provision of handicapped parking stalls is recommended in parking lots of 10 or more stalls.

The criteria on this page shall be complied with for all handicapped parking stalls.



If wheel stops or curb is installed it shall be painted blue and stencilled "HANDICAPPED PARKING ONLY"

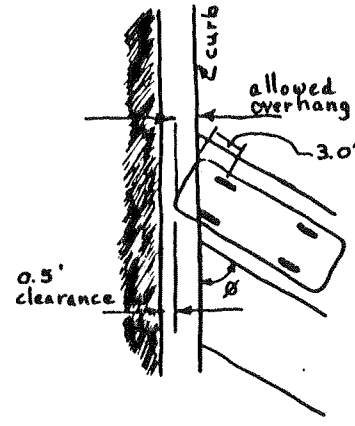
CURB LOCATION

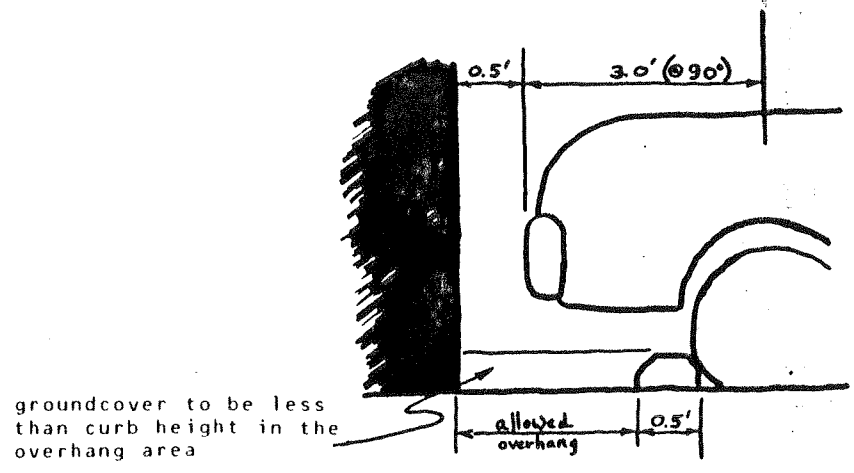
Curbs shall be located in such a position as to:

1. Stop the parked vehicle at a desired location.
2. Protect the adjacent property from damage by the vehicle.

A survey of vehicles on the road today indicates that the "small" vehicle has a front overhang of 33 inches and a "standard" vehicle an overhang of 36 inches. Given this small difference the 36 inch overhang has been used to arrive at the following dimensions:

Degree Ø	Allowed Overhang
30	2.0
40	2.0
50	2.25
60	2.25
70	2.50
80	2.25
90	2.25





DRIVEWAYS

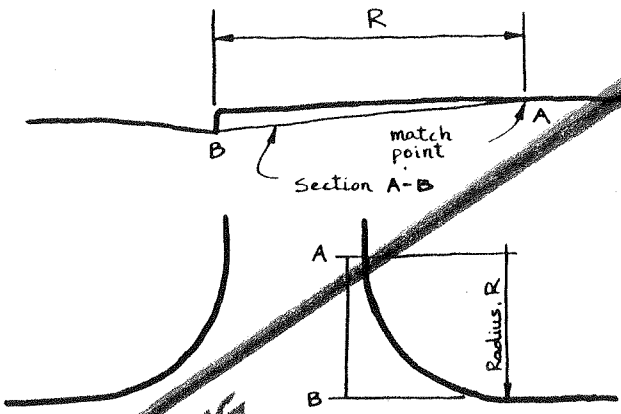
Two types of driveways are to be constructed, the "dustpan" type and a modified alley type.

Driveways are to be constructed following the criteria below:

Daily Trips Generated (In plus Out)	Driveway Type
more than 1,000	Modified Alley (Std. Sheet C-3-353) ——Radius = 25 ft.——
100 - 1,000	Modified Alley (Std. Sheet C-3-353) ——Radius = 15 - 25 ft.
2 - 100	"Dustpan" (Std. Sheet C-3-359) Min. Width = 16 ft.

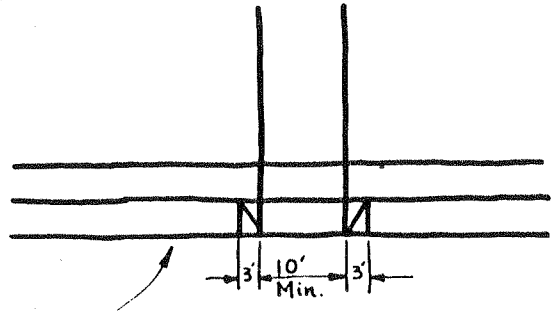
The driveway slopes are to be as shown on Page 27 for one-family and two-family residential uses and as shown on Page 28 for all other uses. The cross-slope on the driveways shall be 2% or less.

The visibility criteria detailed in the Municipal Code (Sec. 28.90.001 No. 11, "Entrances and Exits") are to be adhered to.

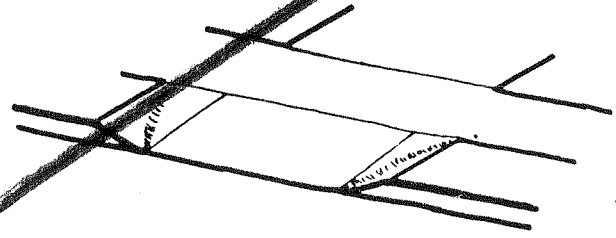


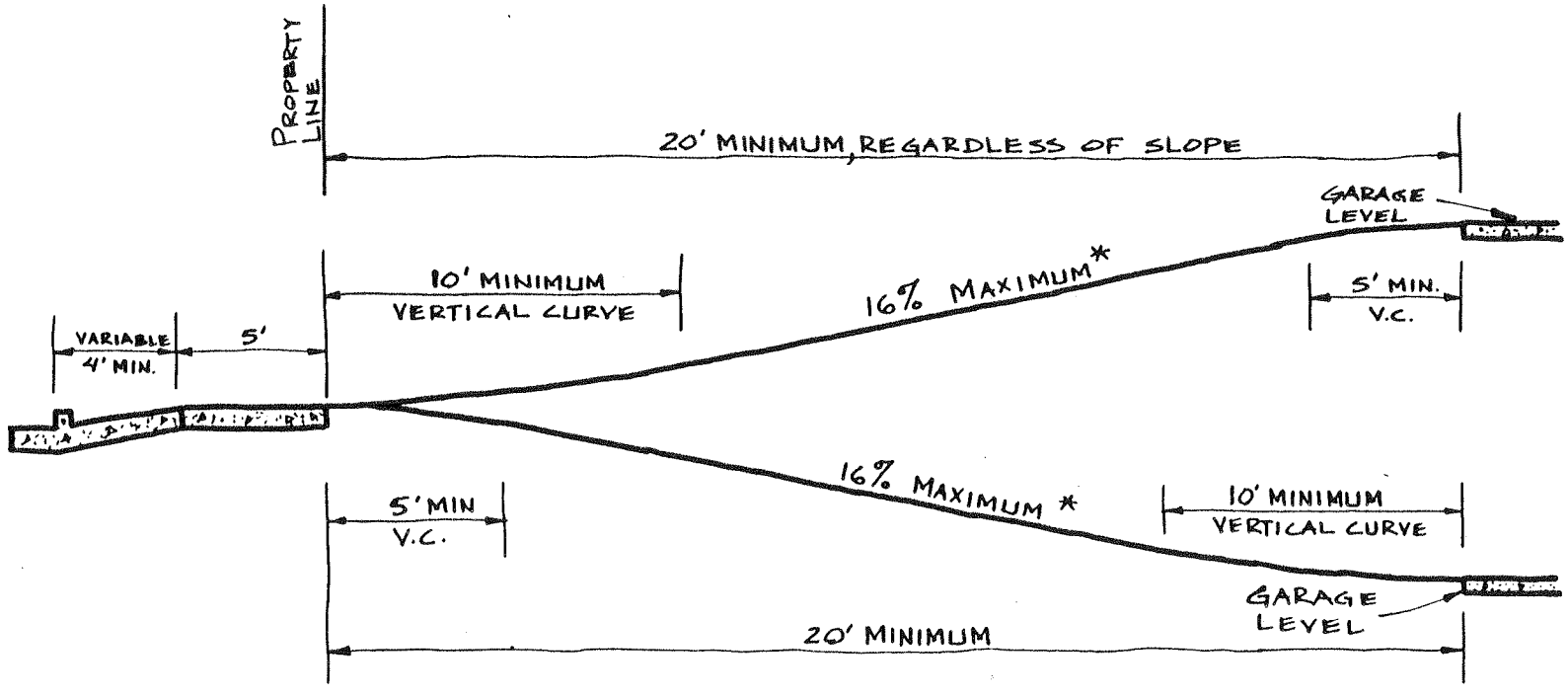
Modified Alley Driveway

SEE ENGINEERING DESIGN STANDARDS



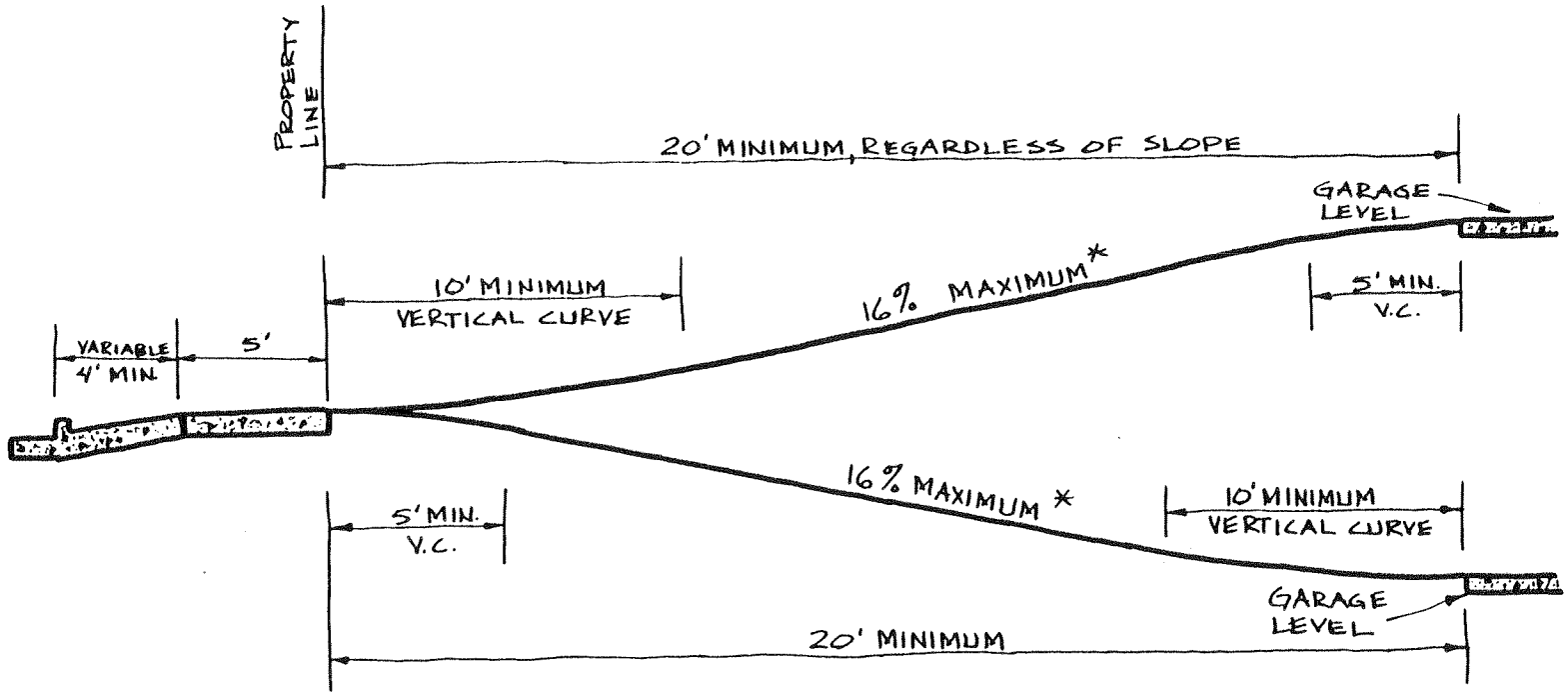
"Dustpan" Driveway





*When the distance from the street pavement to the rearmost portion of any structure on the subject parcel is 150' or less the maximum grade shall be 20%. The 150' is measured along the driveway

DRIVEWAY REQUIREMENTS
ONE-FAMILY AND TWO-FAMILY
RESIDENTIAL USES



* for ramps longer than 65' the grade shall be less than 12%

DRIVEWAY REQUIREMENTS
MULTIPLE FAMILY AND
NON-RESIDENTIAL USES

VEHICLE PROJECTION, VP		
Angle Ø	Compact	Standard
30°	13.8	12.3
35°	14.7	13.1
40°	15.6	13.8
45°	16.3	14.4
50°	16.9	15.0
55°	17.4	15.4
60°	17.8	15.7
65°	18.0	15.8
70°	18.0	15.9
75°	18.0	15.9
80°	17.8	15.7
85°	17.4	15.4
90°	17.0	15.0

Assumes c= 0.5 feet

VP= Lsin Ø + Wcos Ø

LENGTH OF PROJECTED STALL WIDTH S'			
Angle Ø	9'	8.5'	8.0'
30°	18.0	17.0	16.0
35°	15.7	14.8	14.0
40°	14.0	13.2	12.5
45°	12.7	12.0	11.3
50°	11.8	11.1	10.4
55°	11.0	10.4	9.8
60°	10.4	9.8	9.2
65°	9.9	9.4	8.8
70°	9.6	9.1	8.5
75°	9.3	8.8	8.3
80°	9.1	8.6	8.1
85°	9.0	8.5	8.0
90°	9.0	8.5	8.0

$S' = \frac{S}{\sin Ø}$